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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/840,196 | 04/23/2001 | John P. O'Loughlin | TRW(VSSIM)4719-1 | 2264 |
| 26294 | 7590 | 12/16/2005 | | |
| TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 526 SUPERIOR AVENUE, SUITE 1111 CLEVEVLAND, OH 44114 | | | EXAMINER LUM VANNUCCI, LEE SIN YEE | |
| | | | ART UNIT | PAPER NUMBER |

3611

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,196

Applicant(s)

O'LOUGHLIN ET AL.

Examiner

Ms. Lee S. Lum

Art Unit

3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41, 46 and 48-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-41, 46 and 48-62 is/are allowed.
- 6) ☒ Claim(s) 63-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. An Amendment was filed 10/3/05 in which Claim 65 was also added.
The Claims presented for examination are 1-41, 46, 48-65.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Einsiedel et al 6164688 in view of Reynolds et al 6155600, and Materna et al 5433476.

Einsiedel discloses an apparatus for protecting a vehicle occupant comprising
Inflatable side curtain 14 with a length extending along the vehicle side,
Inflator (generator) 11 for directing inflation fluid into the curtain, and,
Fill tube 12 for directing inflation fluid into the curtain for a time sufficient to protect an occupant in a rollover,

the fill tube also heating* (via an adiabatic** process) the fluid so that the fluid has a temperature about equal to an ambient temperature in which the curtain is deployed.

The reference discloses the elements as provided above, but does not disclose the fluid as helium. Reynolds shows helium without pyrotechnic material in c2, ln 14-27. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this arrangement, as shown in Reynolds, to provide another type of inflation fluid for specific results. The various, well-known types of gases are functionally equivalent, and are selectively employed to achieve certain inflation results, such as here.

* This limitation is interpreted in a broad and reasonable manner because the fill tube provided in Einsiedel is undistinguishable from that recited in Claim 63.

** A definition of an "adiabatic" process is "occurring without loss or gain of heat", according to Merriam-Webster's Collegiate Dictionary, 10th Ed.

Further, Materna provides some additional facts about helium in c11, ln 50, to c12, ln 48, including:

c11, ln 56-58 – "[its] high speed of sound helps to provide rapid discharge of the gas...", which means that its temperature will not decrease as quickly as other gases,

c12, ln 1-3, and 22-25 – "in the temperature range of interest for inflator operation, there is not significant spreading of the range of...output as a function of temperature"... "[Thus] this provides the opportunity to transfer a larger amount of heat back into the gas..."

Therefore, Materna's disclosure suggests that helium requires less external heating means to maintain/reach ambient temperature of the vehicle/environment.

3. **Claims 1-41, 46 and 48-62 are allowable** because prior art does not disclose an apparatus as described above further comprising, *inter alia*, a inflation source inflating the airbag to a first desired pressure, and maintain the inflation above a second desired pressure, less than the first pressure, for at least the initial 5-7 seconds of inflation.

4. RESPONSE TO REMARKS

Examiner provides slightly modified rejections of Claims 63 and 64, and also of new Claim 65, with Einsiedel combined with Reynolds and Materna, where Einsiedel discloses most of the structure including a side curtain, inflator and fill tube.

Applicant argues that Reynolds fails to obviate the limitation "the fill tube also being for heating the...fluid" because "the venturi [tube] would actually gain heat from the inflation fluid, thereby cooling the [same]." (p29). Although this opinion is now immaterial because Reynolds is not presently employed to disclose a fill tube, it is noted that the Spec, on p 21, provides

"These high fluid temperatures [at the rear of the fill tube] are a result of adiabatic compressive heating of air that is in the fill tube 22 prior to actuation of the inflator...[As] the inflation fluid passes through the fill tube 22, the fluid gains heat thermodynamically from the tube",

where a definition of "adiabatic" is provided in the rejection.

Because the fill tube, as recited in Claim 63, is undistinguished from that provided by Einsiedel, the air in the fill tube of Einsiedel is also subject to "adiabatic heating" before actuation of the inflator. Thus, the directed fluid gains heat, thermodynamically, from the fill tube. Therefore, the references clearly obviate Claim 63.

It is also noted that the language in Claim 63 is extremely broad, and thereby indistinguishable from references, or combinations thereof, reflecting the state-of-the-art in this field, such as those provided in the rejection above.

Lastly, Materna was combined to teach/provide information on helium, and is meant to supplement Einsiedel and Reynolds. The reference is clearly not exclusive to the combination of the other references, but merely provides background on the properties of helium, which is one of various inflation gases well-known in the art. Applicant is apparently rendering a piecemeal analysis of each reference, whereas the combination is intended. See *In re Keller*, 208 USPQ 871 (CCPA 1981).

Applicant is asked to note allowable subject matter in preceding Claims 1-41, 46, 48-62.

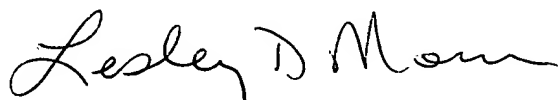
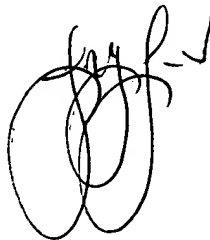
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5. Communication with the Examiner and USPTO

Any inquiry concerning this communication, or others, should be directed to Ms. Lum at 571 272-6649, M-F, 9-5. If she cannot be reached, her supervisor, Ms. Lesley Morris, may be reached at 571 272-6651. Our central fax number is 703 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) System. For unpublished applications - private PAIR only. For published applications - private or public PAIR. For more information re PAIR - <http://pair-direct.uspto.gov>. Questions re private PAIR - contact the Electronic Business Center (EBC) at 866 217-9197.

Ms. Lee S. Lum
Examiner
12/1/05



LESLEY D. MORRIS
SUPERVISOR
TECHNOLOGY CENTER 3600